

## Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note: Read Instructions before completing form.

### I. A. Applicant/Recipient (Name, Address, City, State, Zip Code)

Name: Pokagon Band of Potawatomi Indians

Address: 58620 Sink Road

City: Dowagiac

State: MI: Michigan

Zip Code: 49047-9329

B. DUNS No. 933262354

II. Is the applicant currently receiving EPA Assistance? ☒ Yes ☐ No

III. List all civil rights lawsuits and administrative complaints pending against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

None

IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective actions taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7.)

None

V. List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3))

None

VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below.

☐ Yes ☒ No

a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).

☐ Yes ☐ No

b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable by persons with disabilities, explain how a regulatory exception (40 C.F.R. 7.70) applies.

VII. Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex, age, or disability in its program or activities? (40 C.F.R. 5.140 and 7.95)

☐ Yes ☒ No

a. Do the methods of notice accommodate those with impaired vision or hearing?

☐ Yes ☒ No

b. Is the notice posted in a prominent place in the applicant's offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications?

☐ Yes ☒ No

c. Does the notice identify a designated civil rights coordinator?

☐ Yes ☒ No

VIII. Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or handicap of the population it serves? (40 C.F.R. 7.85(a))

☐ Yes ☒ No

IX. Does the applicant/recipient have a policy/procedure for providing access to services for persons with limited English proficiency? (40 C.F.R. Part 7, E.O. 13166)

☐ Yes ☒ No

- X. If the applicant is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator.

No

- XI. If the applicant is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or Internet Address for, or a copy of, the procedures.

No

**For the Applicant/Recipient**

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized Official

Anne Dueweke

B. Title of Authorized Official

Resource Developer

C. Date

03/25/2022

**For the U.S. Environmental Protection Agency**

I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preaward compliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisions of 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statutes and EPA regulations.

A. \*Signature of Authorized EPA Official

B. Title of Authorized Official

C. Date

**\* See Instructions**

Instructions for EPA FORM 4700-4 (Rev. 06/2014)

General. Recipients of Federal financial assistance from the U.S. Environmental Protection Agency must comply with the following statutes and regulations.

Title VI of the Civil Rights Acts of 1964 provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. The Act goes on to explain that the statute shall not be construed to authorize action with respect to any employment practice of any employer, employment agency, or labor organization (except where the primary objective of the Federal financial assistance is to provide employment). Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act provides that no person in the United States shall on the ground of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under the Federal Water Pollution Control Act, as amended. Employment discrimination on the basis of sex is prohibited in all such programs or activities. Section 504 of the Rehabilitation Act of 1973 provides that no otherwise qualified individual with a disability in the United States shall solely by reason of disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Employment discrimination on the basis of disability is prohibited in all such programs or activities. The Age Discrimination Act of 1975 provides that no person on the basis of age shall be excluded from participation under any program or activity receiving Federal financial assistance. Employment discrimination is not covered. Age discrimination in employment is prohibited by the Age Discrimination in Employment Act administered by the Equal Employment Opportunity Commission. Title IX of the Education Amendments of 1972 provides that no person in the United States on the basis of sex shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance. Employment discrimination on the basis of sex is prohibited in all such education programs or activities. Note: an education program or activity is not limited to only those conducted by a formal institution. 40 C.F.R. Part 5 implements Title IX of the Education Amendments of 1972. 40 C.F.R. Part 7 implements Title VI of the Civil Rights Act of 1964, Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act, and Section 504 of The Rehabilitation Act of 1973. The Executive Order 13166 (E.O. 13166) entitled; "Improving Access to Services for Persons with Limited English Proficiency" requires Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

Items "Applicant" means any entity that files an application or unsolicited proposal or otherwise requests EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Recipient" means any entity, other than applicant, which will actually receive EPA assistance. 40 C.F.R. §§ 5.105, 7.25. "Civil rights lawsuits and administrative complaints" means any lawsuit or administrative complaint alleging discrimination on the basis of race, color, national origin, sex, age, or disability pending or decided against the applicant and/or entity which actually benefits from the grant, but excluding employment complaints not covered by 40 C.F.R. Parts 5 and 7. For example, if a city is the named applicant but the grant will actually benefit the Department of Sewage, civil rights lawsuits involving both the city and the Department of Sewage should be listed. "Civil rights compliance review" means any review assessing the applicant's and/or recipient's compliance with laws prohibiting discrimination on the basis of race, color, national origin, sex, age, or disability. Submit this form with the original and required copies of applications, requests for extensions, requests for increase of funds, etc. Updates of information are all that are required after the initial application submission. If any item is not relevant to the project for which assistance is requested, write "NA" for "Not Applicable." In the event applicant is uncertain about how to answer any questions, EPA program officials should be contacted for clarification. \* Note: Signature appears in the Approval Section of the EPA Comprehensive Administrative Review For Grants/Cooperative Agreements & Continuation/Supplemental Awards form.



# EPA KEY CONTACTS FORM

OMB Number: 2030-0020  
Expiration Date: 06/30/2024

**Authorized Representative:** *Original awards and amendments will be sent to this individual for review and acceptance, unless otherwise indicated.*

Name:	Prefix:	First Name:	Middle Name:
		Rebecca	
	Last Name:		Suffix:
	Richards		
Title:			
Complete Address:			
Street1:	58620 Sink Road		
Street2:			
City:	Dowagiac	State:	MI: Michigan
Zip / Postal Code:	49047-9329	Country:	USA: UNITED STATES
Phone Number:	(269) 782-8998	Fax Number:	
E-mail Address:	rebecca.richards@pokagonband-nsn.gov		

**Payee:** *Individual authorized to accept payments.*

Name:	Prefix:	First Name:	Middle Name:
		Michael	
	Last Name:		Suffix:
	Dixon		
Title:			
Complete Address:			
Street1:	58620 Sink Road		
Street2:			
City:	Dowagiac	State:	MI: Michigan
Zip / Postal Code:	49047-9329	Country:	USA: UNITED STATES
Phone Number:	(269) 519-0157	Fax Number:	
E-mail Address:	michael.dixon@pokagonband-nsn.gov		

**Administrative Contact:** *Individual from Sponsored Programs Office to contact concerning administrative matters (i.e., indirect cost rate computation, rebudgeting requests etc).*

Name:	Prefix:	First Name:	Middle Name:
		Marchell	
	Last Name:		Suffix:
	Wesaw		
Title:			
Complete Address:			
Street1:	58620 Sink Road		
Street2:			
City:	Dowagiac	State:	MI: Michigan
Zip / Postal Code:	49047-9329	Country:	USA: UNITED STATES
Phone Number:	(269) 462-4202	Fax Number:	
E-mail Address:	marchell.wesaw@pokagonband-nsn.gov		

# EPA KEY CONTACTS FORM

**Project Manager:** *Individual responsible for the technical completion of the proposed work.*

**Name:** **Prefix:**  **First Name:**  **Middle Name:**

**Last Name:**  **Suffix:**

**Title:**

**Complete Address:**

**Street1:**

**Street2:**

**City:**

**State:**

**Zip / Postal Code:**

**Country:**

**Phone Number:**

**Fax Number:**

**E-mail Address:**

## Project Narrative File(s)

---

\* Mandatory Project Narrative File Filename:

Add Mandatory Project Narrative File

Delete Mandatory Project Narrative File

View Mandatory Project Narrative File

---

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File

Delete Optional Project Narrative File

View Optional Project Narrative File

## Other Attachment File(s)

---

\* Mandatory Other Attachment Filename:

Add Mandatory Other Attachment

Delete Mandatory Other Attachment

View Mandatory Other Attachment

---

To add more "Other Attachment" attachments, please use the attachment buttons below.

Add Optional Other Attachment

Delete Optional Other Attachment

View Optional Other Attachment

# BUDGET INFORMATION - Non-Construction Programs

OMB Number: 4040-0006  
Expiration Date: 02/28/2022

## SECTION A - BUDGET SUMMARY

Grant Program Function or Activity  (a)	Catalog of Federal Domestic Assistance Number  (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. EPA Enhanced Air Quality for Communities	66.034	\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="57,875.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="57,875.00"/>
2. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4. <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5. Totals		\$ <input type="text"/>	\$ <input type="text"/>	\$ <input type="text" value="57,875.00"/>	\$ <input type="text" value="0.00"/>	\$ <input type="text" value="57,875.00"/>

Standard Form 424A (Rev. 7-97)  
Prescribed by OMB (Circular A -102) Page 1



# SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
	(1)	(2)	(3)	(4)	
	EPA Enhanced Air Quality for Communities				
a. Personnel	\$ 7,290.00	\$	\$	\$	\$ 7,290.00
b. Fringe Benefits	3,991.00				3,991.00
c. Travel	594.00				594.00
d. Equipment	40,000.00				40,000.00
e. Supplies					
f. Contractual	6,000.00				6,000.00
g. Construction					
h. Other					
i. Total Direct Charges (sum of 6a-6h)	57,875.00				\$ 57,875.00
j. Indirect Charges					\$
k. TOTALS (sum of 6i and 6j)	\$ 57,875.00	\$	\$	\$	\$ 57,875.00
7. Program Income	\$	\$	\$	\$	\$

Authorized for Local Reproduction

Standard Form 424A (Rev. 7-97)  
Prescribed by OMB (Circular A -102) Page 1A

SECTION C - NON-FEDERAL RESOURCES				
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e)TOTALS
8. EPA Enhanced Air Quality for Communities	\$	\$	\$	\$
9.				
10.				
11.				
12. TOTAL (sum of lines 8-11)	\$	\$	\$	\$

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 48,938.00	\$ 12,234.00	\$ 12,234.00	\$ 12,235.00	\$ 12,235.00
14. Non-Federal	\$				
15. TOTAL (sum of lines 13 and 14)	\$ 48,938.00	\$ 12,234.00	\$ 12,234.00	\$ 12,235.00	\$ 12,235.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT				
(a) Grant Program	FUTURE FUNDING PERIODS (YEARS)			
	(b)First	(c) Second	(d) Third	(e) Fourth
16. EPA Enhanced Air Quality for Communities	\$ 8,937.00	\$	\$	\$
17.				
18.				
19.				
20. TOTAL (sum of lines 16 - 19)	\$ 8,937.00	\$	\$	\$

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges:	22. Indirect Charges:
23. Remarks:	

Authorized for Local Reproduction

Standard Form 424A (Rev. 7- 97)  
Prescribed by OMB (Circular A -102) Page 2

## Application for Federal Assistance SF-424

\* 1. Type of Submission:

- ☐ Preapplication  
☒ Application  
☐ Changed/Corrected Application

\* 2. Type of Application:

- ☒ New  
☐ Continuation  
☐ Revision

\* If Revision, select appropriate letter(s):

\* Other (Specify):

\* 3. Date Received:

03/25/2022

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

\* a. Legal Name:

Pokagon Band of Potawatomi Indians

\* b. Employer/Taxpayer Identification Number (EIN/TIN):

383278535

\* c. Organizational DUNS:

9332623540000

d. Address:

\* Street1:

58620 Sink Road

Street2:

\* City:

Dowagiac

County/Parish:

\* State:

MI: Michigan

Province:

\* Country:

USA: UNITED STATES

\* Zip / Postal Code:

49047-9329

e. Organizational Unit:

Department Name:

Division Name:

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:

\* First Name:

Jennifer

Middle Name:

\* Last Name:

Kanine

Suffix:

Title:

Organizational Affiliation:

\* Telephone Number:

(269) 462-4214

Fax Number:

\* Email:

jennifer.kanine@pokagonband-nsn.gov

## Application for Federal Assistance SF-424

### \* 9. Type of Applicant 1: Select Applicant Type:

I: Indian/Native American Tribal Government (Federally Recognized)

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

### \* 10. Name of Federal Agency:

Environmental Protection Agency

### 11. Catalog of Federal Domestic Assistance Number:

66.034

CFDA Title:

Surveys, Studies, Research, Investigations, Demonstrations, and Special Purpose Activities  
Relating to the Clean Air Act

### \* 12. Funding Opportunity Number:

EPA-OAR-OAQPS-22-01

\* Title:

Enhanced Air Quality Monitoring for Communities

### 13. Competition Identification Number:

Title:

### 14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

### \* 15. Descriptive Title of Applicant's Project:

Downwind of Industry: Monitoring Air Quality on Pokagon Band Lands

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

**Application for Federal Assistance SF-424****16. Congressional Districts Of:**\* a. Applicant \* b. Program/Project 

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment

Delete Attachment

View Attachment

**17. Proposed Project:**\* a. Start Date: \* b. End Date: **18. Estimated Funding (\$):**

* a. Federal	<input type="text" value="57,875.00"/>
* b. Applicant	<input type="text" value="0.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="57,875.00"/>

**\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

- ☐ a. This application was made available to the State under the Executive Order 12372 Process for review on
- ☐ b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- ☒ c. Program is not covered by E.O. 12372.

**\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment

Delete Attachment

View Attachment

**21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ \*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

**Authorized Representative:**

Prefix:  \* First Name:

Middle Name:

\* Last Name:

Suffix:

\* Title: \* Telephone Number:  Fax Number: \* Email: \* Signature of Authorized Representative:  \* Date Signed:

**Jennifer M. Kanine, PhD, AWB®**

**EDUCATION**

University of Georgia, Athens, GA. 2010-2013  
Doctorate of Philosophy: Forest Resources  
Dissertation: Conservation and Landscape Genetics of Allegheny Woodrats  
(*Neotoma magister*) in Virginia

Central Michigan University, Mt. Pleasant, MI. 2002-2005  
Master of Science: Concentration: Conservation Biology  
Thesis: Microsatellite Analysis of Genetic Variation within Michigan River Otters  
(*Lontra canadensis*)

Central Michigan University, Mt. Pleasant, MI. 1998-2001  
Bachelor of Science: Major: Biology/Natural Resources Concentration Major:  
Recreation, Parks and Leisure Services/ Outdoor and Environmental Education  
Concentration

**PROFESSIONAL EXPERIENCE**

**POKAGON BAND OF POTAWATOMI INDIANS**

Steven Rider 8/2021- Present; Prior Supervisors: Jody Osbon (2020-8/2021); Rebecca Richards (2017-2020); Jason M. Wesaw (2014-2017)

**Director, Department of Natural Resources-October 2014-Present**

Ability to manage a program budget; Reconciliations; Ability to manage multiple departmental credit cards; Development of NEPA EAs, ESA Section 7 Assessments; Consultations on projects within the tribe's service area and treaty rights areas regarding threatened and endangered species, invasive species, and environmental impacts; Development of federal and state permits for projects on tribal properties; Issuance of departmental soil erosion and sediment control permits; Development of written plans, procedures, policies, and ordinances; Ability to supervise; Grant writing; Development of quarterly, semi-annual, and final grant progress reports; Management of up to 20 grants at one time; Budget Estimation; Supervising 7 full-time employees and seasonal staff; Government-to-Government Communications: Local, State, Federal, Sovereign; Ability to set work goals and expectations; Development of monitoring efforts, programs, and educational outreach; Ability to create and maintain administrative databases; Ability to develop partnerships; Approving and Ordering Supplies; Assistance in Development of Request for Proposals, Bid Packets, and Contracts; Interviewing, hiring, and termination of employees; Ability to work and communicate effectively with individuals of many different backgrounds; Public Interaction; Bird surveys; Turtle trapping, identification, and pit-tagging; Fyke net trapping for fish surveys; Backpack electrofishing; Boat electrofishing; Small mammal trapping; Kick net sweeping for macroinvertebrate surveys; Invasive species treatment and removal; Native plant restoration

## **DEPARTMENT OF VETERANS AFFAIRS**

Carolyn Brown

859-381-5947

### **GS-9 Supervisory Biological Lab Technician (Animal)/**

#### **Veterinary Medical Unit (VMU) Supervisor-March 2007-May 2010**

Ability to manage a program budget; Ability to supervise; Annual reports to OLAW, USDA, and AAALAC; Triennial Reports to AAALAC; 5-Year PHS Assurance; Helping Secure Funding for Capital Equipment through grant writing and budget estimation; Helping to Secure Funding for Renovation and Reconstruction Projects; Supervising VMU Employees; Overseeing 4-5 employees; Creating Employee Work Schedules; Interviewing New Employees; Training New Employees; Ability to set work unit goals and expectations; Ability to resolve conflicts; Monitoring Occupational Health & Safety Program for Animal Facility; Monitoring of Annual Mandatory Animal Training; Supervising Husbandry Practices; Completing Husbandry Practices; Restraint & Handling of Small Animals; Monitoring Health in Small Animals; Administering Anesthetics/Analgesics; Performing Animal Euthanasia; Monitoring Sentinel Program; Performing Necropsies; Knowledge of Small Animal Anatomy; Performing Cardiac Sticks; Collecting Blood Samples; Performing Tape Tests & Microscopic Analysis for Parasites; Ordering & Receiving Animals; Importing & Exporting Animals; Ordering of Supplies for Facility; Budget Management; Review of new Animal Component of Research Protocols; Institutional Animal Care and Use Committee Member; Subcommittee on Research Safety Member; Knowledge of rules and regulations for NIH, PHS, AWA, AVMA, & AAALAC; Calculating Monthly Per Diems; Lifting and Carrying Objects Greater than 50 lbs.; Technical Knowledge of Edstrom Alarm System and its' Operations; Technical Knowledge of Equipment used within an Animal facility; Ability to work and communicate effectively with individuals of many different backgrounds; Public Interaction

## **PUBLICATIONS**

- Kanine, JM, Kierepka E, Castleberry, SB, Mengak, MT, Nibbelink, NP, and Glenn T. 2018. Influence of landscape heterogeneity on the functional connectivity of Allegheny woodrats (*Neotoma magister*) in Virginia. *Conservation Genetics* 19(11): 1259-1268.
- Kanine, JM, Castleberry, SB, Mengak, MT, and Winchester, C. 2015. Seasonal Variation in Key Largo Woodrat (*Neotoma floridana smalli*) Diets. *Southeastern Naturalist* 14(2):405-414.
- Kanine, JM. 2013. Conservation and Landscape Genetics of Allegheny Woodrats (*Neotoma magister*) in Virginia. PhD Dissertation. University of Georgia, Athens, GA.

## **GRANTS RECEIVED**

- 2022 USDA NRCS Invasive Species Contract \$82,992
- 2022 EPA Great Lakes Restoration Initiative (GLRI) \$300,000
- 2021 USDA NRCS EQIP Contract \$372,853
- 2021 Great Lakes Basin Fish Habitat Partnership \$50,000
- 2021 Great Lakes Fisheries Trust \$150,000
- 2021 Bureau of Indian Affairs (BIA) Fuels \$50,000
- 2021 BIA Forestry EAB \$96,333
- 2021 BIA GLRI \$650,000

**Project Title:** Downwind of Industry: Monitoring Air Quality on Pokagon Band Lands

**Applicant Information:**

Applicant Organization: Pokagon Band of Potawatomi Indians

Address: 58260 Sink Rd., P.O. Box 180, Dowagiac, MI 49047

Primary Contact: Jennifer Kanine; 269-462-4214; [Jennifer.Kanine@PokagonBand-nsn.gov](mailto:Jennifer.Kanine@PokagonBand-nsn.gov)

DUNS Number: 9332623540000

**Set-Aside:** Tribal Set-Aside

**Brief Description of Applicant Organization:** The Pokagon Band of Potawatomi Indians (“Pokagon Band”) is descended from the Potawatomi Nation which once extended from the central lower peninsula of Michigan to the Mississippi River. In 1994, federal recognition was reaffirmed through the Pokagon Band Restoration Act. The Act established a ten-county service area (“Service Area”) for the Pokagon Band, including four counties in Michigan and six in Indiana. Since 1994, the Pokagon Band has had tribal properties taken into trust in four locations which are representative of four tribally important locations. At three of the four locations the Band has established tribal villages with the intent to expand these villages to provide housing for interested tribal citizens.

**Project Location(s):** Dowagiac, MI 49047; Hartford, MI 49057; New Buffalo, MI 49117; South Bend, IN 46614

**Air Pollutant Scope:** Ozone, PM<sub>2.5</sub>, & PM<sub>10</sub>

**Budget Summary:**

EPA Funding Requested	Total Project Cost
\$57,875	\$57,875

**Project Period:** Anticipated 03/01/2023-02/28/2025

**Short Project Description:** The Pokagon Band Department of Natural Resources (PBDNR) completed a Level IV Air Emissions Inventory that provides information related to air pollution affecting tribal trust properties. The Pokagon Band’s tribal properties are downwind of heavy industrial manufacturing and development along the southern shore of Lake Michigan. The Pokagon Band proposes to acquire and install four air quality sensors to collect real-time continuous data that will be analyzed and shared with tribal citizens. Compared to the general population, tribal citizens are more predisposed to asthma and other respiratory health conditions. Having more detailed information about the air quality on tribal lands will help the Pokagon Band better assess potential dangers posed by pollutants and take action to mitigate the risk to tribal citizens, if necessary.



## WORKPLAN

### Section 1

#### *A. Overall Project:*

To fill knowledge gaps and provide Pokagon Band citizens with more accurate and meaningful air quality data, the PBDNR proposes to install air quality sensors in, or near, tribal villages (“Project”). At the onset of the Project, the PBDNR will seek community input on air quality and any specific areas of concern on tribal lands. After these initial meetings, the PBDNR will use grant funds to purchase four air quality sensors capable of real-time data collection on pollutants and install them on tribal land in areas of concern for the Pokagon community. In addition to these stationary air quality sensors, the PBDNR will purchase a portable field air quality test kit to verify the accuracy of the data generated by the stationary sensors and alert the PBDNR to any need to recalibrate the sensors or replace them if they are not working properly.

The real-time air quality monitoring will produce a large amount of data. In order to store and manage such large data quantities, the PBDNR will subscribe to a cloud-based service provided by the sensor manufacturer to house the data and provide preliminary analysis (*e.g.*, QA/QC graphs). The PBDNR will then create its own analysis to share with tribal citizens through online communications, public meetings, and the tribal housing newsletter. It is expected that these avenues will provide the data at least quarterly to tribal citizens. The PBDNR will collect feedback from tribal citizens regarding the data and air quality concerns and determine steps for addressing citizen feedback.

#### *B. Project Significance:*

Since its federal recognition was reaffirmed in 1994, the Pokagon Band has had tribal properties taken into trust in four locations (Dowagiac, Hartford, and New Buffalo in Michigan, and South Bend in Indiana), which have historical importance to the Band. At three of the four locations, the Pokagon Band has established tribal villages with the intent to expand the housing provided at these villages for interested tribal citizens.

Around the southern shore of Lake Michigan, which is just outside of the Service Area and upwind of tribal trust lands, there are large urban (*e.g.*, Chicago) and industrial areas. A Level IV Air Emissions Inventory completed by the PBDNR in 2020 indicates that industrial manufacturing and development upwind of the Service Area could negatively affect air quality near tribal housing. State ambient air monitoring in Indiana and Michigan have shown the impacts of these areas on ambient air over coastal counties, including counties within the Pokagon Band’s Service Area. There are documented issues within the Service Area related to ozone pollution; Berrien County and the western half of Allegan County are in non-attainment for ozone. Ozone, however, is not the only air quality problem. There are indications that PM may be affecting local air quality as well, due in some instances to western wildfires. Because some coastal and many inland counties lack state-funded air monitors, there is a lack of data regarding ambient air quality for tribal citizens living in these counties. Furthermore, state monitoring networks are not designed to provide local-

level air quality information. These circumstances create a situation in which it is known that there are ambient air pollutants on tribal lands, however, concentrations of these pollutants and the risk they pose to tribal citizens are unclear.

Once established, the network of air quality sensors will provide insight into environmental effects that may enhance or degrade air quality on tribal properties. The PBDNR foresees short and intermediate outcomes from the Project. In the short term, the Pokagon Band tribal government, tribal citizens, and the PBDNR will gain a better understanding of the concentration of pollutants occurring in the ambient air on tribal lands. Coupled with existing weather stations on tribal properties, the PBDNR should also be able to further elucidate circumstances that result in greater or lesser ambient air pollution. Over time, the PBDNR will be able to ascertain if there are also seasonal effects that impact air quality, create a baseline dataset of current conditions, and continue to monitor conditions into the future to determine if air quality is changing, for better or worse, over time. The PBDNR will use this enhanced ability to collect and analyze data to expand air monitoring efforts. After collecting and analyzing air quality data for a year, the PBDNR will share the results with state environmental agencies in Michigan and Indiana as a means of initiating a dialogue regarding air quality. Citizen input and data generated from the Project will also guide the PBDNR as it determines how best to expand its air quality program, including applying for Clean Air Act 103 or 105 monies to fund future initiatives.

## **Section 2**

### *A. Community Partnerships:*

Community partnerships are currently in place with the Cass County Conservation District, Berrien County Conservation District, the USDA Natural Resources Conservation Service (NRCS), and the Michigan Department of the Environment, Great Lakes, and Energy (MIEGLE). Although these partners will not be responsible for any aspect of the Project, each has shown interest in ambient air pollution and has consulted on air quality with the PBDNR. Due to the lack of an adequate weather station network within the Service Area, the USDA NRCS is currently working with the PBDNR to install a weather station on tribal properties that measures multiple variables, including temperature, wind speed, soil conditions, and precipitation. Coupled with the requested air quality sensors, the weather station will produce data that can provide more insight into which conditions produce better or worse air quality over tribal lands. The aforementioned partners will all benefit from the air quality sensors by being able to access the data online as well as upon request. The PBDNR works with these partners on a regular basis on multiple projects and programs and meets with them at least monthly to discuss ongoing projects, new projects, emerging needs, community outreach, and ways to assist each other. The PBDNR plans to maintain these partnerships into the future as they are valuable to the Pokagon community and the community at large. Due to the nature of the Project – installation of a tribal air quality monitoring network – the direct involvement of these partners is not required, but they will benefit from the network once it is installed.

### *B. Community Engagement:*

Prior to installing the air quality monitors, the PBDNR will meet with Pokagon citizens residing on tribal land to learn about their concerns regarding air quality. These meetings will occur during quarterly residential meetings, and newspapers and digital newsletters will be used to gather opinions of community members online. Additionally, discussions will take place during the annual tribal citizens meeting to gather as many opinions regarding air quality as possible. The PBDNR will also meet with Pokagon Health Services (PHS) staff to better determine what proportion of the tribal community is at higher risk of (or sensitive to) being negatively affected by poor air quality. PHS input may also be considered when selecting the locations for the air quality sensors. Further community engagement will occur with tribal youth through educational outreach regarding air quality and its effects on the tribal community. Engagement with tribal youth will be accomplished through the summer youth camp as well as at Zagbëgon, the Pokagon Band's early learning academy. Real-time data collected from the air quality sensors will be analyzed and compiled into a manageable and easily digested format that can be shared with the tribal as well as the greater community through online formats, in-person meetings, newsletters, and educational brochures.

## **Section 3**

Despite the Pokagon Band's considerable efforts to maintain their environmentally sustainable way of life, land use in and around the Service Area has changed substantially since American colonization began, causing a decrease in air quality on tribal lands. These problems were not caused by the Pokagon Band and yet Native Americans are disparately affected by respiratory issues, which makes them more susceptible to ill effects from air pollution. Compared to their White peers, Native American children are up to 60% more likely to have asthma, while Native American adults are 28% more likely to develop asthma than their White counterparts. Furthermore, Native Americans have at least a 10% higher risk of death from chronic respiratory diseases compared to White Americans. These higher rates of asthma among Native Americans are exacerbated by other health disparities including higher rates of comorbidities, inadequate access to health care, historical trauma, and related factors.

The proposed Project seeks to address these disparities by gathering input from tribal citizens about the air quality issues they are experiencing and providing data and information regarding air pollution and its health effects that will be of benefit to the Pokagon Band tribal community. Given that Native Americans are disproportionately affected by air pollution and the Pokagon Band's tribal villages are located downwind of heavy industrial development and manufacturing, determining to what degree Pokagon citizens may be impacted by ambient air pollutants is important to bringing about greater environmental justice.

## **Section 4**

### *A. Expected Project Outputs and Outcomes:*

Expected Project outputs include:

- Identification of air pollution through community-specific assessment on tribal trust properties.
- Deployment of four air quality sensors providing near real-time continuous data.
- Engagement of tribal citizens through community meetings and online communications.

The PBDNR foresees the following short-term and intermediate outcomes from the proposed Project:

#### *Short-term Outcomes (change in knowledge)*

- Identification of pollutants on tribal trust properties.
- Increased community awareness about air pollution on tribal properties.
- Increased access for tribal citizens to data on the potential health effects of the identified pollutants.

#### *Intermediate Outcomes (change in behavior)*

- Data-sharing with state and local environmental agencies in Michigan and Indiana to help inform environmental policy.
- Collaboration with the Pokagon community to mitigate health risks for tribal citizens.

#### *Long-term Outcome (change in conditions)*

- Collaborate with state and local environmental agencies in Michigan and Indiana on mitigation efforts.

### *B. Performance Measures and Plan:*

By providing air quality data specific to an underserved community, the proposed Project supports Goal 4, Objective 4.1 of EPA's Draft Fiscal Year (FY) 2022-2026 Strategic Plan. The PBDNR will gather data on the following performance measures related to the outputs and outcomes identified for the Project:

- Quotes received from air quality sensor vendors and cloud data storage contractors.
- Air quality sensors purchased and installed.
- Contract signed with cloud data storage provider.
- Number of tribal citizen meetings attended.
- Amount of input gathered from tribal citizens on air quality concerns.
- Grant funds expended on schedule.
- Pollutants on tribal properties identified through air quality monitoring.
- Number of mechanisms employed to share data on air pollution with tribal citizens.
- Number of interactions with state and local environmental agencies regarding air quality on tribal properties.
- Ongoing measurements of air quality and concentrations of pollutants of concern.

- Quarterly reports and final report submitted on time.

The PBDNR will request quotes from air quality sensor manufacturers and, once selected, will oversee the procurement and installation of the sensors. The Pokagon Band IT Department will evaluate cloud software to determine the safety and security of the software as it relates to the Band's IT network prior to acquisition. The PBDNR Director will review and approve all purchases and expenditures on the grant, including staff hours dedicated to the proposed Project. The Environmental Specialist will ensure that timeline milestones are met, and the PBDNR Director will monitor Project outputs and outcomes and gather data on performance measures.

*C. Timeline and Milestones:* See timeline and milestones on page 8.

## **Section 5**

See the Other Attachments section of the application for the Quality Assurance Statement.

## **Section 6**

### *A. Past Performance:*

EPA grants received in the past three years include:

2018-2019 EPA PPG Grant 01E01169 - \$359,971: All goals with the grant were accomplished and successfully managed. Reporting requirements for the grant were completed and on time. A final technical report submitted for this grant has been used by the EPA as an example report for the region.

2017-2022 GL00E02223 EPA GLRI Invasive Species Grant - \$118,719: Reporting requirements are being completed on time and steady progress is being made on project goals. The COVID-19 pandemic resulted in a request to extend the grant to 2022 as key personnel on the grant were furloughed during the pandemic.

### *B. Reporting Requirements:*

2018-2019 EPA PPG Grant 01E01169 - \$359,971: Reporting requirements for the grant were completed and on time. A final technical report submitted for this grant has been used by the EPA as an example report for the region.

2017-2022 GL00E02223 EPA GLRI Invasive Species Grant - \$118,719: Reporting requirements are being completed on time and steady progress is being made on Project goals.

*C. Staff Expertise:*

Project Director, Dr. Jennifer Kanine, has served as the Director of the PBDNR for over seven years and manages multiple grants. She is responsible for oversight, management, and coordination of the Project. Dr. Kanine has provided on-time reporting and grant deliverables for grant-funded projects throughout her tenure with the Pokagon Band. Dr. Kanine will oversee work on the proposed Project.

Kyle Boone, M.S., has served as Environmental Specialist for the PBDNR for six years and worked diligently to complete the Pokagon Band's recent Level IV Air Emissions Inventory. Mr. Boone is well versed in air quality issues affecting and potentially affecting tribal trust properties and is the key point of contact related to air quality within the PBDNR. Mr. Boone has collected data and created reports for the EPA and BIA related to environmental grants within the PBDNR and is capable of analyzing and compiling air quality data for representation to the tribal community.

Ms. Marchell Wesaw serves as Director of Compliance for the Pokagon Band. She has over ten years' experience in grant administration and has managed Compliance since 2016. She and her staff oversee multiple federal awards from a range of agencies. She is well versed in federal Uniform Guidance and the rules and regulations pertaining to federal grants. Ms. Wesaw will be responsible for proper fiscal oversight of the Project and will work closely with the Accounting Analyst and Project Director.

**Timeline and Milestones:**

Milestones																								
	2023										2024												2025	
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Establish fund code	X																							
Request quotes from air quality sensors companies	X																							
Attend annual tribal citizen meeting	X												X											
Attend quarterly tribal village residential meetings				X			X			X			X			X			X			X		
Conduct tribal citizen outreach	X	X		X	X	X	X						X	X	X	X	X							
Purchase air quality sensors		X																						
Install air quality sensors			X	X																				
Field check air quality stations						X		X		X		X		X		X		X		X		X		X
Conduct quality control checks on sensors with field monitor								X						X						X				
Review data					X		X		X		X		X		X		X		X		X		X	
Analyze and compile data						X			X			X			X			X			X			X
Prepare/submit quarterly reports				X			X			X			X			X			X			X		
Prepare/submit final report																							X	X

## **Section 7**

### *A. Budget Detail*

<b>Line Item &amp; Itemized Cost</b>	<b>EPA Funding</b>
<b>Personnel</b>	
Environmental Specialist (\$29/hr x 75 hours per year x 2 years)	\$4,350
Director (\$49/hr x 30 hrs per year x 2 years)	\$2,940
<b>TOTAL PERSONNEL</b>	<b>\$7,290</b>
<b>Fringe Benefits</b>	
Environmental Specialist (62% of salary)	\$2,697
Director (44% of salary)	\$1,294
<b>TOTAL FRINGE BENEFITS</b>	<b>\$3,991</b>
<b>Travel</b>	
Travel to sites with air quality sensors (3,300 miles x \$0.18/mile)	\$594
<b>TOTAL TRAVEL</b>	<b>\$594</b>
<b>Equipment</b>	
Air quality sensors (4 units)	\$34,000
Outdoor air quality portable test kit	\$6,000
<b>TOTAL EQUIPMENT</b>	<b>\$40,000</b>
<b>Contractual</b>	
Cloud data storage and management service for air quality monitoring sensors (2 years)	\$6,000
<b>TOTAL CONTRACTUAL</b>	<b>\$6,000</b>
<b>TOTAL FUNDING</b>	<b>\$57,875</b>
<b><u>TOTAL PROJECT COST</u></b>	<b><u>\$57,875</u></b>

#### **Personnel**

*Environmental Specialist* – Annual Salary \$60,008 – 3.6% FTE – Total Cost \$4,350.00: The Environmental Specialist will be responsible for setting up air quality sensors on tribal properties and checking them for functionality at least every two months. The Environmental Specialist will also be responsible for compiling and analyzing air quality data and presenting the data in a format that is easily digestible by and accessible to tribal citizens.

*Director* - Annual Salary \$101,275 – 1.4% FTE – Total Cost \$2,940.00: The Director will be responsible for working with the Pokagon Band IT Department on the acquisition of the air quality sensors as well as securing a contract for cloud software support related to storing and managing data generated by the sensors. The Director will also be responsible for overseeing the work of the Environmental Specialist, engaging tribal citizens and other stakeholders, making purchasing requests, managing the award, and reviewing, analyzing, and submitting required reports. The Director will also be responsible for reviewing compiled data and coordinating with the Pokagon Band Department of Communications to provide citizens with updates regarding air quality monitoring on tribal lands.



**Fringe Benefits**

Fringe benefit percentages differ among individuals within the organization. The Environmental Specialist has fringe benefit rate of 62%, and the Director has a fringe benefit rate of 44%. Fringe benefits including retirement, workers compensation, health insurance, life insurance, accidental death and dismemberment, short term disability, FICA, and SUTA.

**Travel**

Travel costs shown in the budget reflect 8 trips per year to tribal locations in Dowagiac, Hartford, and New Buffalo in Michigan as well as to South Bend in Indiana. The estimated mileage for these trips from the tribal government campus in Dowagiac, Michigan, is expected to total 3,300 miles. The mileage reimbursement rate requested is the approved GSA rate for 2022 for government vehicles. These trips are needed to set up the air quality sensors and check on them regularly to make sure they are functioning properly.

**Equipment**

Requested equipment includes 4 air quality sensor units and the associated hardware for mounting and installation.

**Contractual**

Air quality sensors will collect data continuously, which will generate a vast quantity of data to be stored and analyzed. Cloud software data storage services are needed to adequately compile, analyze, and develop accurate representations of air quality data gathered from each site. The contractual request covers the cost of these services for the two-year grant period.

*B. Reasonableness of Costs*

The budget request represents the minimum amount needed to effectively carry out the Project while allowing adequate staff time to complete the work and providing enough resources to purchase high-quality equipment and services. The Pokagon Band is waiving indirect costs.

*C. Expenditure of Awarded Funds*

The Pokagon Band maintains its accounting records based on the principles of Fund Accounting. The Director of Finance creates new funds as warranted. The need for new funds may be prompted by new grants or programs being established for which there is a need to track associated costs within that specific fund. The Pokagon Band accounts for its operations in accordance with Generally Accepted Accounting Principles (GAAP) applicable to governmental and Tribal units. The Pokagon Band complies with all applicable circulars issued by the Office of Management and Budget (OMB) and with all requirements detailed in duly executed grant agreements with awarding agencies.

The Pokagon Band follows written accounting policies and procedures, which are revised and updated as needed. A brief list of topics covered includes, but is not limited to: Contract Management and Closeout, Grant Financial & Budgetary Compliance, Grant Program

Implementation, Financial Budgeting, Grant Drawdown, Grant Reporting, Grant Closeout, Financial Reporting, Record Retention & Control, Travel, and Vendor Selection.

The Pokagon Band generally works from a reimbursement position so that grant cash is not on hand. Reimbursement requests are made at least quarterly. The Project Director, Accounting Analysts, and Compliance staff review charges to grant accounts. The Project Director is responsible for initial approval of any charges to the grant, including appropriate coding of all expenditures incurred. Compliance staff meet with the Project Director regularly to monitor progress on the project and timely expenditure of grant funds.

## Quality Assurance Statement

The individual responsible for the quality assurance (QA) and quality control (QC) aspects of the project is the Director of the Pokagon Band Department of Natural Resources (PBDNR). The Director will be responsible for QA activities, including the following:

- Directing project activities
- Reviewing project deliverables
- Developing project planning
- Overseeing project strategies, including community and stakeholder engagement
- Reviewing reports for accuracy and consistency
- Ensuring that data are accurately represented
- Working with staff to resolve any QA issues
- Overseeing/directing placement of air quality sensors (and any internal approvals needed)
- Addressing technical problems

Dr. Jennifer Kanine has served as the Director of Natural Resources for the Pokagon Band for 7.5 years. During this time, Dr. Kanine has had oversight of all grants within the PBDNR and has been responsible for QA/QC aspects related to multiple EPA grants under her direction. Dr. Kanine will develop and follow standard operating procedures for the Project, train team members as needed regarding QA/QC, and perform sample collections, sample management, data collection, data management, consultation, and technical guidance as needed for the Project.

To ensure that data collected by each air quality sensor is accurate and precise, PBDNR staff will perform field checks of each sensor every six months with an outdoor air monitoring field kit. If at any time there appears to be a discrepancy in the data being collected by the air quality sensors, the PBDNR will determine whether the issue is due to calibration problems or if there are sensors that need to be replaced.

A full quality assurance project plan will be developed and submitted prior to receiving an award.

Manifest for Grant Application # GRANT13580147

Grant Application XML file (total 1):

1. GrantApplication.xml. (size 21826 bytes)

Forms Included in Zip File(total 6):

1. Form ProjectNarrativeAttachments\_1\_2-V1.2.pdf (size 16009 bytes)

2. Form SF424\_3\_0-V3.0.pdf (size 24054 bytes)

3. Form SF424A-V1.0.pdf (size 22661 bytes)

4. Form EPA4700\_4\_3\_0-V3.0.pdf (size 22614 bytes)

5. Form OtherNarrativeAttachments\_1\_2-V1.2.pdf (size 16009 bytes)

6. Form EPA\_KeyContacts\_2\_0-V2.0.pdf (size 37200 bytes)

Attachments Included in Zip File (total 4):

1. ProjectNarrativeAttachments\_1\_2 ProjectNarrativeAttachments\_1\_2-Attachments-1237-Project Narrative.pdf application/pdf (size 244660 bytes)

2. OtherNarrativeAttachments\_1\_2 OtherNarrativeAttachments\_1\_2-Attachments-1234-Quality Assurance Statement\_FINAL.pdf application/pdf (size 105784 bytes)

3. OtherNarrativeAttachments\_1\_2 OtherNarrativeAttachments\_1\_2-Attachments-1236-Kyle\_Boone\_CV.pdf application/pdf (size 84065 bytes)

4. OtherNarrativeAttachments\_1\_2 OtherNarrativeAttachments\_1\_2-Attachments-1235-Jennifer\_Kanine\_CV.pdf application/pdf (size 81005 bytes)

# Kyle Boone

## Ex. 6 Personal Privacy (PP)

---

---

<b>Education</b>	<p>M.S. in Conservation Biology, December 2016 Central Michigan University, Mt. Pleasant, MI Cumulative GPA: 3.82 Advisor: Kevin Pangle</p> <p>B.S. Double Major in Environmental Studies and Biology, May 2014 Manchester University, North Manchester, IN Cumulative GPA: 3.51 Advisor: Jerry Sweeten</p>
<b>Employment</b>	<p>Environmental Specialist, Pokagon Band of Potawatomi Department of Natural Resources. May 2016 – current</p> <ul style="list-style-type: none"><li>• Build environmental capacity within DNR through planning, training, and obtaining new grants</li><li>• Develop and implement projects on a variety of environmental topics including water quality, air quality, solid waste, climate change, and environmental education</li><li>• Assist with other departmental needs including water chemistry, macroinvertebrate ID, and fisheries</li></ul> <p>Teaching Assistant, Central Michigan University. August 2014 – May 2016</p> <ul style="list-style-type: none"><li>• On-board new ecology lab teaching assistants</li><li>• Assist in creation of lesson plans for ecology lab</li><li>• Guide students through the scientific process, experimental design, and statistical analysis</li></ul> <p>Stream Technician, U.S. Forest Service, PacFish/InFish Biological Opinion. May 2013 – September 2013</p> <ul style="list-style-type: none"><li>• Measure a suite of instream and riparian habitat variables following the Effectiveness Monitoring Sampling Methods for Stream Channel Attributes published by PIBO</li><li>• Navigate backcountry terrain with a three-person crew for eight-day shifts that included multiple day backpacks to locate monitoring sites</li><li>• Accurately report stream measurements and field kit contents at the end of eight-day shifts</li></ul> <p>Undergraduate Research Assistant, Manchester University. May 2011 – August 2011, May 2012 – August 2012</p>

	<ul style="list-style-type: none"> <li>• Conduct smallmouth bass nesting surveys in the Eel River, Indiana</li> <li>• Sample fish populations via electrofishing surveys to determine IBI scores for stream reaches and estimate smallmouth bass population densities</li> <li>• Age smallmouth bass using cross sections of dorsal spines</li> </ul>
<b>Research Experience</b>	<p>The use of the Soil and Water Assessment Tool (SWAT) to predict late spring total suspended sediment loading in the Eel River, Indiana Central Michigan University September 2014 – December 2016</p> <p>The relationship between suspended sediment, discharge, and recruitment of smallmouth bass <i>Micropterus dolomieu</i> in the Eel River, Indiana Central Michigan University and Manchester University May 2011 – December 2016</p>
<b>Selected Presentations</b>	<p>Climate Change Adaptation Projects at the Pokagon Band Tribal Climate Workshop: Bay Mills Community College October 2017</p> <p>A Clearly Muddy Relationship: The Relationship Between Suspended Sediment, Discharge, and Recruitment of Smallmouth Bass <i>Micropterus dolomieu</i> in the Eel River, Indiana Central Michigan University, Thesis Defense May 2016</p> <p>The Relationship Between Suspended Sediment, Discharge, and Recruitment of Smallmouth Bass <i>Micropterus dolomieu</i> in the Eel River, Indiana Midwest Fish and Wildlife Conference January 2016</p>
<b>Publications</b>	<p>A Clearly Muddy Relationship: The Relationship Between Suspended Sediment, Discharge, and Recruitment of Smallmouth Bass <i>Micropterus dolomieu</i> in the Eel River, Indiana Central Michigan University, Thesis May 2016</p> <p>CWA 319 Assessment Report and Management Plan Pokagon Band of Potawatomi March 2021</p>
<b>Related Experience</b>	<p>Vice President of Two Rivers Coalition Working knowledge of ArcGIS suite Continued experience assisting with electrofishing surveys Experience with statistical software R Writing grant applications and assisting in grant management Experience with large, multi-year data sets</p>